

CT TRAIL CONSTRUCTION SPECIFICATIONS

A. SCOPE:

A.1. The Contractor shall provide all goods or services and deliverables as required, described, and detailed below and shall meet all service and delivery timelines as specified by this Contract.

A.2. All trail construction will meet the specifications and standards established in the American Trails guide for Sustainable Trail Development (<https://www.americantrails.org/images/documents/Sustainable-TrailDevelopment-Guidelines.PDF>) for full bench trail construction (unless alternative is approved by a designated State Parks representative.)

B.

B.1. The contractor is responsible for providing all trail building tools and transportation. Tools will comply with the standards established in the USDA Trail Construction and Maintenance Notebook 2007 Edition (<http://www.fs.fed.us/t d/pubs/pdfpubs/pdf07232806/pdf07232806dpi72.pdf>) and the American Trails non-profit organizational website (www.americantrails.org). Trail building machinery will be restricted to electric and gas operated hand tools and mini skid steer systems with a wheel or track width of 42 inches or less.

B.2. The trail must be designed to provide a long lasting, sustainable, back country trail that can be traversed by novice hikers with moderate effort. Due to the nature of the terrain and location of the project, the trail section will not be designated as an Americans with Disabilities (ADA) compliant trail. The trail will be designed for hiking and foot traffic only.

B.3. Prior to the start of construction, the State will provide the contractor with a daily contact list for the designated park staff member from the Cumberland Trail Scenic Park. The list will identify the points of contact for issues, questions, and design modifications/exceptions.

B.4. The trail corridor includes the trail tread, back slope, out slope, and ceiling above the trail tread. The trail corridor should be cleared by removing small trees and limbs to open a "6 foot-wide by 8 foot-tall box". Trees with diameter of 4 inches including roots system will be removed if in trail tread. Trees 4 inches in diameter in trail corridor but not in trail tread can be cut down to ground. Trees alive or dead with diameter greater than 4 inches cannot be removed unless authorized for the purpose of moving machinery for trail construction. The removal of these trees must be approved by the designated park staff member.

B.5. The trail tread will be a minimum of 30 inches with a full or solid bench. Fill material will not be used to gain trail width. In areas where rock and trees cannot be removed, a minimum 18 inches of trail tread is acceptable for up to 3

feet of the trail length and must maintain the same trail grade.

B.6. The trail tread must have an out slope of 3% - 6% to ensure proper drainage. Roots and rock that pose a tripping hazard will be fully removed. The trail back slope should be at an angle that resembles the slope of the terrain.

B.7. Little Soak Creek Trail

B.7.a. Trail Description with Approximate Footage

- Point 238 – Trail construction begins at this point. Terrain is relatively flat to very moderately sloped. Area is covered with dense patches of small trees that will require removal for trail construction. Distance to point 239 is 509.5 feet.
- Point 239 – Terrain in this area is on a slight hillside. Trail will need to be constructed as a bench cut. The density of thick patches of trees increases in this area. Trees will require removal in trail corridor before construction. Distance to point 240 is 517 feet.
- Point 240 – Trail will be bench cut on slightly sloped hillside. Hillside will continue for 150ft before flattening out. Dense small trees throughout entire section. Distance to point 241 is 867 feet.
- Point 241- Trail will descend steeply sloped terrain for approximately 50ft before transitioning to moderately sloped terrain. This segment will require a bench cut. Density of small trees in area remains thick which will require removal in trail corridor. Terrain becomes slightly rocky. No rock work will be needed but will require removal for trail construction. Distance to point 242 is 223 feet.
- Point 242- Trail will be bench cut on slightly sloped terrain. Area is covered with scattered rocks and dense patches of trees, both of which will require removal for trail construction. There are three switchbacks needed on this section spaced 150-200 feet apart. Distance to point 243 is 157 feet.
- Point 243 – Trail exits switchback. A bench cut will be needed on a slightly sloped hill. Dense small trees continue. Approximately 150 feet from the end of the switchback, there is a drain. Rock work will be needed to ensure water flow and sustainability, drain is approximately 2 ft wide. After exiting drain bench cut will continue slightly sloped hillside. Distance to point 244 is 289 feet.
- Point 244 – Terrain is on slightly sloped hillside requiring bench cut. Terrain steepens for 150 yards before flattening back out. Section is covered with scattered rock that may require removal for trail construction. Distance to point 245 is 451 feet.
- Point 245- Trail crosses very small drainage (< 2ft) which will require rockwork for sustainability and ensure water flow. After crossing drainage trail continues relatively flat terrain for 150 ft. At this point terrain steepens requiring a bench cut. Distance to point 246 is 874 feet.
- Point 246- Trail descends very steep hillside for 30ft. A rock staircase will be required here. After bottom of staircase trail will continue flat terrain for 75ft. At this point there will be a 10ft drain crossing that will require sustainable rockwork that will allow water flow. After drainage trail will continue along flat ground paralleling creek. Distance to point 247 is 261 feet.
- Point 247- Terrain steepens on rocky hillside. A mixture of rockwork and bench cut will be required for 75ft. then becoming solely bench cut on slightly sloped hillside. Distance to point 248 is 363 feet.
- Point 248 – Terrain in on steep slope requiring rock staircase for 20 ft down to creek. Creek

crossing will be 20-25 ft. rockwork will need constructed across creek to ensure semi dry crossing but not to impede water flow. On far bank of creek 2-3 rock steps will need constructed out of creek bed. Distance to point 249 is 18 feet.

- Point 249- Trail enters old, existing roadbed. The road is on flat semi rocky terrain. The roadbed is 15ft wide. All blowdowns and debris will need removed from roadway. Continue along roadway for 500ft. Distance to point 250 is 583.5 feet.
- Point 250- Trail leaves roadbed, ascends moderately steep hillside. A bench cut will be required for 150-200 ft before returning to roadbed. Trail will continue along roadbed for approximately .25 miles. All downed trees, brush, and debris will need removed from roadbed. The roadbed corridor will also require lopping. Distance to point 251 is 1,330 feet.
- Point 251- Trail crosses creek. The creek crossing is approximately 10-15 ft. wide. Rockwork will need constructed across creek to ensure semi dry crossing but not to impede water flow. After crossing creek trail construction will continue along flat terrain for 50 ft then slight hillside requiring bench cut. Segment ends at small drainage (3ft wide) drainage will require rockwork to ensure sustainability but not to impede water flow. Distance to point 252 is 292 feet.
- Point 252- Trail construction continues along flat terrain resembling old roadbed. In 100 ft there is a small drain crossing (2ft wide). Drainage will need rockwork for sustainability but not impeding water flow. After drainage, trail continues along flat terrain clearing all brush and debris from trail corridor. Distance to point 253 is 384.5 feet.
- Point 253- Terrain becomes moderately rocky. Bench cut will be required slightly above washed out area for 50 ft. At this point the trail will return to flat terrain. Distance to point 254 is 207 feet.
- Point 254- Creek crossing of approximately 15ft. Rockwork will need constructed across creek to ensure semi dry crossing but not to impede water flow. After crossing creek trail construction will continue along flat terrain resembling an old roadbed for 100 yards. Distance to point 255 is 276 feet.
- Point 255- Trail construction up steep gradient for 75ft. This segment will require rock steps. After rock staircase trail construction will continue along moderately sloped hillside requiring a bench cut. Distance to point 256 is 378 feet.
- Point 256- Terrain steepens greatly. 20ft rock staircase will be constructed up hillside to existing roadbed. From top of staircase, trail construction continues along roadbed for 250 ft. The roadbed may require construction of drainage systems and all debris and blowdowns will need removed from roadbed. Distance to point 257 is 321 feet.
- Point 257- Trail leaves roadbed. After leaving roadbed there will be a 10ft segment of rock steps required. From top of rock staircase trail construction continues along slight hillside requiring bench cut for approximately 400ft, at this point construction of a switchback will be required. After exiting switchback trail construction continues for 50ft on slightly sloped hillside requiring a bench cut until reaching the end of construction at existing built trail. Distance to point 258 is 494 feet.
- Point 258- End of Section.

B.7.b. Approximate Coordinates

Point 238: 35.7259, -84.9268

Point 239: 35.72698, -84.9275

Point 240: 35.7278, -84.9288

Point 241: 35.72927, -84.9308

Point 242: 35.7296, -84.9313

Point 243: 35.7299, -84.9313

Point 244: 35.72999, -84.932
Point 245: 35.73016, -84.9334
Point 246: 35.73162, -84.9353
Point 247: 35.73169, -84.936
Point 248: 35.73195, -84.937
Point 249: 35.73199, -84.937
Point 250: 35.73223, -84.9384
Point 251: 35.73144, -84.9419
Point 252: 35.73094, -84.9425
Point 253: 35.73083, -84.9436
Point 254: 35.73085, -84.9443
Point 255: 35.73085, -84.9451
Point 256: 35.73058, -84.9463
Point 257: 35.73014, -84.9471
Point 258: 35.72972, -84.946 End of Section

B.8. Hinch Mountain Trail

B.8.a. Trail Description with Approximate Footage:

- Point 1- Beginning of bid section. Good dirt, very little side hill cut, and no rock. Flagging runs through open woods with very little under brush. Trail corridor is already cleared. Distance to point 2 is 583 feet.
- Point 2- Small drainage, no bridge required. Drainage would only hold water during major flood but would not be enough water affect trail or trail construction. Distance to point 3 is 746.5 is feet.
- Point 3- Beginning of scattered rock work. Side hill cut with scattered rocks that may need removed from trail bed. Woods are still open, little to no underbrush to clear from corridor. Distance to point 4 is 380 feet.
- Point 4- Terrain becomes slightly steeper. Bench cut will become deeper with scattered rock. Under brush becomes more prevalent and will need cleared. Distance to point 5 is 6385 feet.
- Point 5- Scattered rock becomes larger and denser. Some rock will require a rock bar to move. Under brush is scattered and dense in some areas. Distance to point 6 is 1,006 feet.
- Point 6- Steeper terrain and side hill cut ends as trail rises. Rocks also begin to dissipate. Terrain opens and rocks begin to scatter. Very little underbrush. Distance to point 7 is 1,634 feet.
- Point 7- Switch back and trail intersection with loop connector. Forest is still open. Sidehill cut begins as trail starts downhill. Distance to point 8 is 620 feet.
- Point 8- Steep decent with rock staircase required. Rocks on hand will be enough for stairs. Staircase will be between 20-25ft long. Distance to point 9 is 528 feet.
- Point 9- Rock staircase required. Trail descends through narrow gap in between large rocks. After staircase steep sidehill begins. Distance to point 10 is 909 feet.
- Point 10- End of staircase and end of section.

B.8.b. Approximate Coordinates

Point 1: 35.7881, -84.982

Point 2: 35.78963, -84.982

Point 3: 35.79008, -84.984

Point 4: 35.79041, -84.985

Point 5: 35.79118, -84.986

Point 6: 35.7922, -84.989

Point 7: 35.79476, -84.992

Point 8: 35.79344, -84.992

Point 9: 35.79319, -84.993

Point 10: 35.79273, -84.994 End of Section

B.9. Lone Star Trail Section 1:

B.9.a. Trail Description with Approximate Footage

- Point 1- This section follows along the contour ascending through a mix of hardwoods and thick undergrowth. A drain is present at the end of this segment (less than 20 feet wide). This bid section begins at an existing segment of the Cumberland Trail (Point 1). Distance from point 1 to 2 is 657 feet.
- Point 2- The trail continues gradually ascending away from existing Cumberland Trail section through a very thick understory. Distance from point 2 to 3 is 472 feet.
- Point 3- Trail continues along the contour ascending gradually away from existing Cumberland Trail section. Extremely thick understory throughout. Distance from point 3 to 4 is 670 feet.
- Point 4- Trail reverts back to slight side hill slope along the contour. Extremely thick undergrowth (briars, Mountain Laurel, etc.). Distance from point 4 to 5 is 940 feet.
- Point 5- Trail descends gradually along the contour through an extremely thick understory (briars, Mountain Laurel, etc.). This segment ends at a creek called Steep Bluff Branch (less than 20 feet wide); water is present. Distance from point 5 to 6 is 716 feet.
- Point 6 - Trail continues on slight side hill slope terrain along the contour with an extremely thick understory (briars, mountain laurel, etc.). Distance from point 6 to 7 is 1,027 feet.
- Point 7- Trail continues along slight side hill slope along contour. Extremely thick understory (briars, mountain laurel, etc.). Distance from point 7 to 8 is 618 feet.
- Point 8- Trail continues along slight side hill slope of terrain along the contour though a thick understory (briars, mountain laurel, etc.). Distance from point 8 to 9 is 252 feet.
- Point 9- The trail descends gradually through an extremely thick area of understory (mountain laurel and other saplings). Distance from point 9 to 10 is 292 feet.
- Point 10- Hand-build required on a gradual descent down to the creek with sporadic rock work. The trail will not cross the creek. Thick understory present (mountain laurel, hemlocks, saplings). Distance from point 10 to 11 is 360 feet.
- Point 11- This segment contains a short section of rock work along the creek through a thick understory (saplings, briars, hemlocks). Distance from point 11 to 12 is 892 feet.
- Point 12- The trail continues on terrain that has a slight side slope with a thick understory of briars, mountain laurel, and saplings. Sporadic rock work required in this section. Distance from point 12 to 13 is 488 feet.
- Point 13- Trail follows along a slight side hill slope of terrain though a thick understory of briars,

mountain laurel, and saplings. This bid section will end at the main ATV road (Point 14). Distance from point 13 to 14 is 380 feet.

- Point 14 End of Section 1.

B.9.b. Approximate Coordinates

Point 1: 35.94791, -84.845

Point 2: 35.94667, -84.8464

Point 3: 35.94418, -84.8483

Point 4: 35.94418, -84.8483

Point 5: 35.9422, -84.8501

Point 6: 35.94184, -84.8485

Point 7: 35.9395, -84.8502

Point 8: 35.93896, -84.8518

Point 9: 35.93832, -84.8517

Point 10: 35.93785, -84.8512

Point 11: 35.93729, -84.8506

Point 12: 35.93688, -84.8499

Point 13: 35.93748, -84.8472

Point 14: 35.93673; -84.8459 End of Section

B.10. Lone Star Trail Section 2:

B.10.a. Trail Description with Approximate Footage

- Point 14: The trail begins with slight side slope to flat terrain following along the lefthand side of the stream into a gradual ascent that leads to the bottom of a switchback. Distance between points 14 to 15 is 824.1 feet.
- Point 15: Short ascending switchback section. Hand-build and rock work most likely be required. The segment ascends gradually along the contour completing the switchback. The switchback ends at waypoint 16. Distance between points 15 to 16 is 168 feet.
- Point 16: Hand-build along with intermittent rock work through a thick understory. Distance between points 16 to 17 is 195 feet.
- Point 17: Sporadic rock work and hand-build most likely required. A dried-up drain is present (less than 20 feet). Thick understory throughout. Distance between points 17 to 18 is 366 feet.
- Point 18: Short sections of rock work required; the terrain is steep and ascends gradually along the contour. The thick understory continues along with open hardwoods throughout. Distance between points 18 to 19 is 272 feet.
- Point 19: This segment begins with a gradual ascent along the contour followed by a short section of a downhill descent toward the end. Hand-build and sporadic rock work throughout this segment will be required. A dried-up drain is present towards the end of this section (less than 20 feet wide). The terrain features a mix of open hardwoods and thick understory. Distance between points 19 to 20 is 450 feet.
- Point 20: Trail continues to gradually ascend along steep terrain. Hand-build and rock work required. Thick understory (briars, mountain laurel, etc.). Distance between points 20 to 21 is 565 feet.

- Point 21: Steep terrain continues, hand-build most likely required under the bluff line. Sporadic rock work required throughout this segment. A dried-up drain is present (less than 20 feet wide). Thick understory resumes. Distance between points 21 to 22 is 375 feet.
- Point 22: Segment includes short sections of exposed rock leading into an area that will likely require a mix of hand and machine-build. A dry drainage is present in this segment. The terrain is steep sloping through open hardwoods. Distance between points 22 to 23 is 260 feet.
- Point 23: The trail ascends gradually along steep terrain through a thick understory of briars and saplings continuing to an area with open hardwoods and possible rock work. This section has a small, dry drainage present (less than 10 feet wide). Distance between points 23 to 24 is 452 feet.
- Point 24: The trail ascends gradually along steep terrain through a thick understory of briars and saplings. Distance between points 24 to 25 is 468 feet.
- Point 25: The terrain ascends gradually through a thick understory of briars and saplings. There is a small, but easily traversed drain present (less than 10 feet wide). This bid section will end at the main ATV access road (waypoint 26). Distance between points 25 to 26 is 755 feet.
- Point 26: End of Section 2

B.10.b. Approximate Coordinates

Point 14: 35.93673, -84.846
 Point 15: 35.93643, -84.8438
 Point 16: 35.93626, -84.8435
 Point 17: 35.93602, -84.844
 Point:18: 35.93536, -84.8436
 Point 19: 35.93461, -84.8436
 Point 20: 35.93336, -84.8444
 Point 21: 35.93222, -84.8446
 Point 22: 35.93139, -84.8448
 Point 23: 35.93077, -84.8454
 Point 24: 35.9298, -84.8458
 Point 25: 35.92858, -84.8457
 Point 26: 35.92671, -84.84672 End of Section 2

B.11. Lone Star Trail Section 3:

B.11.a. Trail Description with Approximate Footage

- Point 26: Segment includes moving of dirt on slight side hill slope with a mix of thick understory and hardwoods to main ATV rd. This bid section begins at main ATV access road (waypoint 26). Distance between points 26 to 27 is 305.14 feet.
- Point 27: Segment includes moving of dirt on slight side hill slope with a mix of thick understory and hardwoods. Distance between points 27 to 28 is 521.28 feet.
- Point 28: Segment includes moving of dirt on slight side hill slope with a mix of thick understory and hardwoods. Distance between points 28 to 29 is 630.25 feet.
- Point 29: Segment includes moving of dirt on slight side hill slope with a mix of thick understory

and hardwoods. This section includes a great view to the right. Distance between points 29 to 30 is 612.75 feet.

- Point 30: Segment includes moving of dirt on a gradual descent on a ridge side. This section has sparsely open patches. Segment ends in an open field. Distance between points 30 to 31 is 454.33 feet.
- Point 31: This section includes moving of dirt through an open field. Trail follows a game trail through the field. This segment includes a drain at the end with water present. Distance between points 31 to 32 is 363.28 feet.
- Point 32: Trail segment includes moving of dirt through a thick understory. This section includes a creek that is crossable and water present. Segment ends at briar thicket. Distance between points 32 to 33 is 329.42 feet.
- Point 33: Trail segment includes the moving of dirt through a dense briar thicket. Distance between points 33 to 34 is 201 feet.
- Point 34: Trail segment includes moving most of the dirt on slight side hill terrain. Trail gradually descends and ascends into and out of a shallow hollow at the beginning. Distance between points 34 to 35 is 556.45 feet.
- Point 35: Trail segment includes moving most of the dirt on slight side hill terrain through a thick understory of briars and saplings. This section is above a bluff line. Distance between points 35 to 36 is 558.01 feet.
- Point 36: This will be the end of trail bid. Trail segment will include moving most of the dirt on slight side hill terrain through a thick understory of briars and saplings. Trail construction should end 150 or more feet before ATV road. Distance between points 36 to 37 is 201 feet.
- Point 37: End of Section 3.

B.11.b. Approximate Coordinates

Point 26: 35.92671, -84.8467

Point 27: 35.92643, -84.8461

Point 28: 35.92643, -84.8461

Point 29: 35.92562, -84.8446

Point 30: 35.92446, -84.8433

Point 31: 35.92308, -84.8445

Point 32: 35.92315, -84.846

Point 33: 35.92332, -84.847

Point 34: 35.92276, -84.8471

Point 35: 35.92229, -84.8474

Point 36: 35.92154, -84.8467

Point 37: 35.92021, -84.84615 End of Section 3

B. 12 Construction requirements including necessary rock features and armoring are included in a "Trail Description" attachment for each section.

B.13 The trail design will be designated by the Cumberland Trail Staff with a series of plastic, orange marking tape tied to trees throughout the project area. The orange plastic markers are referred to as flags and the series of flags is referred to as the flag line. The knot side of the flag on the tree designates the trail corridor. The contractor is expected to follow the flag line for the

construction of the trail. The contractor can implement minor changes in the trail design based on their knowledge and experience; however, the contractor must have approval from a designated park staff member for any major changes made to the design. Minor changes on trail design must stay within 10 yards of the original design, any change in design that deviates farther is defined as major and will need approval. Waypoints are only a general guide to the trail location and length.

B.14 In sections where there is little to no mineral soil, the trail should be built using rock material from the area surrounding the trail. The trail tread will be accomplished by "puzzling or armoring" the rock together or using existing, local rocks to build steps. Steps should have a rise of 8 -10 inches maximum for a majority of the section. The maximum limit can be adjusted for unique situations and only for less than 10 percent of the section. The contractor can determine the best method for puzzling/armoring and step construction. However, the contractor must gain approval from the designated park staff member if the rock steps will exceed 10 inches in rise.

C.

Completion Date

All work is to be complete and the Contractor will schedule inspection of all trail work with Justin P. Wilson Cumberland Trail State Park Staff to ensure satisfactory completion by: August 1, 2022